

REMARKS

This responds to the Office Action mailed on December 29, 2005, and the references cited therewith.

Claims 1, 5, 15, 24, 32, 36, 46 and 55 are amended, claims 17 and 48 are canceled, and no claims are added; as a result, claims 1-16, 18-47 and 49-63 remain pending in this application.

§102 Rejection of the Claims

Claims 1-3, 5-10, 12, 15, 17, 18, 20, 24-34, 36-41, 43, 46, 48, 49, 51, 55, 57, 59, 62, and 63 were rejected under 35 U.S.C. § 102(b) for anticipation by Chantzis et al. (U.S. Patent No. 6,417,435). Anticipation requires the disclosure in a single prior art reference of each element of the claim under consideration. *In re Dillon* 919 F.2d 688, 16 USPQ 2d 1897, 1908 (Fed. Cir. 1990) (en banc), cert. denied, 500 U.S. 904 (1991). It is not enough, however, that the prior art reference discloses all the claimed elements in isolation. Rather, “[a]nticipation requires the presence in a single prior reference disclosure of each and every element of the claimed invention, *arranged as in the claim.*” *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1984) (citing *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983)) (emphasis added). Applicant respectfully submits that the Chantzis does not anticipate Applicant’s claims as amended because Chantzis does not teach each and every claim element.

For example, independent claim 1, as amended, recites “weighting at least a subset of the features.” Independent claims 24, 32 and 55, as amended recite similar language. Applicant has reviewed Chantzis and can find no teaching of applying a numerical weighting to a subset of the features. As a result, Chantzis does not teach each and every element of Applicant’s claims 1, 24, 32 and 55. Therefore Chantzis does not anticipate claims 1, 24, 32, and 55. Applicant respectfully requests reconsideration and the withdrawal of the rejection of claims, 1, 24, 32 and 55.

Claims 2-3, 5-10 and 12 depend either directly or indirectly from claim 1. Claims 25-31 depend either directly or indirectly from claim 24. Claims 33-34, 36-41 and 43 depend either directly or indirectly from claim 32. Claims 57, 59, 62 and 63 depend either directly or indirectly

from claim 55. These dependent claims inherit the elements of their respective base claims 1, 24, 32 or 55 and add further patentable distinctions. These dependent claims are therefore not anticipated for the same reasons as discussed above with respect to their base claims. Applicant respectfully requests reconsideration and the withdrawal of the rejection of claims 2-3, 5-10, 12, 25-31, 33-34, 36-41, 43, 57, 59, 62 and 63.

A further example of an element not taught by Chantzis is found in claim 15, which recites "training a system to recognize a set of notes played by a musical instrument from one or more reference notes." Claim 46 recites similar language. In the rejection of now canceled claims 17 and 48, the Office Action states that "'training" is synonymous with "proficiency testing" (see Chantzis' title)." While the statement in isolation may be true, Applicant respectfully submits that the Office Action has ignored other language in the claim. In Chantzis, the proficiency testing is directed to the user of the system, that is, the training is provided to a system user. Conversely, in the recited claim language, it is the system that is being trained to recognize notes as the note sounds when played by a particular instrument. Thus the system as claimed is trained to recognize notes before the system is used to train a user. Details on the training mechanism may be found in the specification at page 12, line 27 to page 13, line 19. Applicant has reviewed Chantzis, and can find no teaching of training a system to recognize notes. As a result, Chantzis does not teach or suggest each and every claim limitation of claims 15 and 46, and therefore does not anticipate claims 15 and 46. Applicant respectfully requests reconsideration and the withdrawal of the rejection of claims 15 and 46.

Claims 17 and 48 have been canceled in this response.

Claims 18 and 20 depend either directly or indirectly from claim 15. Claims 49 and 51 depend either directly or indirectly from claim 46. These dependent claims inherit the elements of their respective base claims 15 and 46 and add further patentable distinctions. These dependent claims are therefore not anticipated for the same reasons as discussed above with respect to their base claims. Applicant respectfully requests reconsideration and the withdrawal of the rejection of claims 18, 20, 49 and 51.

Claims 1, 15, 24, 32, 46, 55, 56, and 59 were rejected under 35 U.S.C. § 102(a) for anticipation by Sitrick (U.S. Published Patent Application No. 2003/0024375A1). Applicant

respectfully submits that Sitrick does not anticipate the claims, as amended, because the claims contain elements not found in Sitrick.

For example, as noted above independent claim 1, as amended, recites “weighting at least a subset of the features.” Independent claims 24, 32 and 55, as amended recite similar language. Applicant has reviewed Sitrick and can find no teaching of applying a numerical weighting to a subset of the features. As a result, Sitrick does not teach each and every element of Applicant’s claims 1, 24, 32 and 55, thus Sitrick does not anticipate claims 1, 24, 32, and 55. Applicant respectfully requests reconsideration and the withdrawal of the rejection of claims, 1, 24, 32 and 55.

A further example of an element not taught by Sitrick is found in claim 15, which recites “training a system to recognize a set of notes played by a musical instrument form one or more reference notes.” Claim 46 recites similar language. Applicant has reviewed Sitrick and can find no teaching or disclosure of training a system to recognize notes as recited in the claims and as discussed on page 12, line 27 to page 13, line 19 of the specification. As a result, Sitrick fails to teach each and every element of claims 15 and 46. Applicant respectfully requests reconsideration and the withdrawal of the rejection of claims 15 and 46.

Claims 56 and 59 depend either directly or indirectly from claim 55. These dependent claims inherit the elements of their respective base claim 55 and add further patentable distinctions. These dependent claims are therefore not anticipated for the same reasons as discussed above with respect to their base claim 55. Applicant respectfully requests reconsideration and the withdrawal of the rejection of claims 56 and 59.

§103 Rejection of the Claims

Claims 4, 11, 13, 14, 35, 42, 44, and 45 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Chantzis et al. (U.S. Patent No. 6,417,435) in view of Kuhn (“A Real-Time Pitch Recognition Algorithm for Music Applications”, Computer Music Journal, 14 (1990) 60-71). In order for a case of obviousness to exist, three base criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the

prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *M.P.E.P.* § 2142 (citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed.Cir. 1991)). Applicant respectfully submits that the claims contain elements not taught or suggested by Chantzis and Kuhn, and therefore claims 4, 11, 13, 14, 35, 42, 44, and 45 are not obvious in view of the combination of Chantzis and Kuhn.

Claims 4 and 35 depend either directly or indirectly from claims 1 and 32 respectively. Each of these dependent claims thus inherit elements directed to weighting at least a subset of note features. As discussed above, Chantzis does not teach or suggest weighting note features. Additionally, Applicant has reviewed Kuhn and can find no teaching or disclosure of weighting note features. As a result, neither Chantzis nor Kuhn teach or disclose each and every element of claims 4 and 35.

With respect to claims 11, 13, 14, 42, 44, and 45, the Office Action states "the methods used to determine the peak location and the stop and start note times are deemed to be a matter of design choice and are functionally equivalent to those of Chantzis and Kuhn." The Examiner must provide a *specific reason* to support an obvious rejection. *Ex parte Humphreys*, 24 USPQ2d 1255 (BPAI 1992)(emphasis added). An Examiner's assertion that a modification proposed is "an obvious matter of engineering design choice" is an unsupported conclusion - not a reason upon which to base a rejection. *See In re Garrett*, 33 BNA PTCJ 43 (November 13, 1986); *see also In re Gal*, 980 F.2d 717, 25 USPQ2d 1076 (Fed. Cir. 1992)(rejecting an "obvious design choice" rejection wherein the claimed structure and its function are different from the prior art); *see also In re Chu*, 66 F.3d 292, 36 USPQ2d 1089 (Fed. Cir. 1995)(rejecting an "obvious design choice" rejection wherein there is no teaching or suggestion in the reference to modify its own structure in the manner of the rejected claim). The Office Action fails to provide any reference to specific disclosures in either Chantzis or Kuhn that teach claims 11, 13, 14, 42, 44 and 45.

Further, because all the elements of the claim are not found in the reference, Applicant proceeds under the assumption that the Office Action is taking official notice of the missing elements without supporting documentary evidence.

Official notice unsupported by documentary evidence should only be taken by the examiner where the facts asserted to be well known, or to be common knowledge in the art are capable of instant and unquestionable demonstration as being well known (see M.P.E.P. § 2144.03(A)). Applicant submits that the elements missing from Chantzis and Kuhn do not meet this standard. Additionally, if such notice is taken, the basis for such reasoning must be set forth explicitly. The examiner must provide specific factual findings predicated on sound technical or scientific reasoning to support his or her conclusion of common knowledge (see M.P.E. P. 2144.03(B)). Applicant submits that the reasoning provided in the Office Action does not reflect factual findings predicated on sound technical or scientific reasoning but instead a conclusory statement of subjective belief. Applicant respectfully traverses the taking of official notice and requests supporting documentary evidence in the next official action to maintain the rejection.

For the reasons discussed above, Applicant respectfully requests reconsideration and the withdrawal of the rejection of claims 4, 11, 13, 14, 35, 42, 44, and 45.

Claims 9 and 40 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Chantzis et al. (U.S. Patent No. 6,417,435) in view of Hall (U.S. Patent No. 6,725,108). Claims 9 and 40 depend either directly or indirectly from claims 1 and 32 respectively. Each of these dependent claims thus inherit elements related to fuzzy matching, specifically, “wherein a match occurs when at least a subset of the extracted features match a note in the dataset of saved note features.” Applicant has reviewed Chantzis and Hall and can find no teaching or disclosure of matching based on a subset of note features. As a result, neither Chantzis nor Hall teach or disclose each and every element of claims 9 and 40.

Claims 16, 17, 19, 21-23, 47, 48, 50, 52-54, 58, 60, and 61 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Chantzis et al. (U.S. Patent No. 6,417,435) in view of Taruguchi et al. (U.S. Patent No. 6,380,474).

Claims 17 and 48 have been canceled in this response.

Claims 16, 19 and 21-23, depend from claim 15. Claims 47, 50 and 52-54, depend from claim 46. Each of these dependent claims inherit the elements of their respective base claims, including elements directed to “training a system to recognize a set of notes played by a musical instrument from one or more reference notes.” As discussed above, Chantzis does not teach or disclose training a system to recognize notes. Additionally, Applicant has reviewed Taruguchi,

and can find no teaching or suggestion of training a system to recognize notes using a training database. As a result, neither Chantzis nor Taruguchi teach or disclose each and every element of claims 16, 19, 21-23, 47, 50 and 52-54.

Claims 58, 60, and 61 depend from claim 55. Each of these dependent claims thus inherit from claim 55 the recitation of “applying a weighting to at least a subset of a set of note features in the set of data and performing a comparison of the weighted set of note features...” As discussed above, Chantzis does not teach or disclose the recited language. Further, Applicant has reviewed Taruguchi and can find no teaching or disclosure of the recited language. As a result, neither Chantzis nor Taruguchi teach or disclose each and every element of claims 58, 60 and 61.

For the reasons discussed above, neither Chantzis nor Taruguchi, alone or in combination, teach or suggest each and every elements of claims 16, 17, 19, 21-23, 47, 48, 50, 52-54, 58, 60, and 61. As a result, the claims are not obvious in view of the combination of Chantzis and Taruguchi. Applicant respectfully requests reconsideration and the withdrawal of the rejection of claims 16, 17, 19, 21-23, 47, 48, 50, 52-54, 58, 60, and 61.

CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (612) 373-6954 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

ARUN SOMANI ET AL.

By their Representatives,

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.
P.O. Box 2938
Minneapolis, MN 55402
(612) 373-6954

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By 

Rodney L. Lacy
Reg. No. 41,136

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Mail Stop Amendment, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 10th day of June, 2006.

Rodney L. Lacy
Name


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